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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,719	01/20/2004	Steven H. Walker	200310900-1	3687

22879 7590 03/13/2007  
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INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER
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PYO, KEVIN K

ART UNIT	PAPER NUMBER
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2878

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/761,719

Applicant(s)

WALKER, STEVEN H.

Examiner

Kevin Pyo

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/16/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 10-15, 21-56 and 58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6-9, 16-20 and 57 is/are rejected.
- 7) ☒ Claim(s) 2, 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

Office of References Cited (PTO-892)

Office of Draftsperson's Patent Drawing Review (PTO-948)

Information Disclosure Statement(s) (PTO/SB/08)

Page(s)/Mail Date \_\_\_\_\_

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date. \_\_\_\_\_

5) ☐ Notice of Informal Patent Application

6) ☐ Other: \_\_\_\_\_

Mark Office  
08-06)

Office Action Summary

Part of Paper No./Mail Date 20070306

***Claim Rejections - 35 USC § 112***

1. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, the phrase “the plurality of apertures” lacks a proper antecedent basis. In view of expediting the prosecution, the examiner will treat claim 3 as to depend on claim 2 since the limitation “a plurality of apertures” is recited in claim 2.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, 7, 16-19 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Borton et al (5,078,497).

Regarding claims 1 and 16, Borton et al shows in Fig.4 the following elements of applicant's claim: a) a housing (96); b) only one light source (102) within the housing, the light source being configured to emit predominantly of a red color (col.7, lines 14-16); and c) sensors (106) within the housing, the sensors being configured to detect diffuse and specular reflections of the light from an object (col.7, lines 31-37).

Regarding claims 6, 7, 17 and 18, the limitations therein are disclosed in col.7, lines 15-16.

Regarding claims 19, the limitation therein is shown in Figs.4 and 5.

Regarding claim 57, Borton et al shows in Fig.4 the following elements of applicant's claim: an optical sensor (51) including a) a housing (96); b) only one light source (102) within the housing, the light source being configured to emit predominantly of a red color (col.7, lines 14-16); and c) sensors (106) within the housing, the sensors being configured to detect diffuse and specular reflections of the light from an object (col.7, lines 31-37); and means for scanning (30) the object with the optical sensor.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borton et al.

Regarding claim 8, although Borton et al does not specifically mention the recited arrangement of a light source, the specific angle at which a light source is aligned with respect to a surface of an object would have been obvious to one of ordinary skill in the art in view of achieving the particular desired performance and meeting different design requirements.

Regarding claims 9 and 10, although Borton et al discloses the use of photodiodes (106) as its sensors, it is well known in the art to utilize a phototransistor instead of a photodiode for sensing a light beam and it would have been obvious to one of ordinary skill in the art to utilize

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phototransistors, instead of photodiodes, in the device of Borton et al since they are art recognized functional equivalents.

*Allowable Subject Matter*

6. Claims 2, 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2-5, the prior art fails to disclose or make obvious an optical sensor assembly comprising, in addition to the other recited features of the claim, the limitation of “the housing includes a plurality of apertures against which the sensors are coaxially aligned, the apertures being shaped and positioned relative to the sensors to control resolution and energy collection of the sensors”.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is (571) 272-2445. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kevin Pyo  
Primary Examiner  
Art Unit 2878

Kp  
3/6/07